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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/098,626	03/18/2002	Mike Farwick	32301W269	3695
441	7590	02/17/2004	EXAMINER	
SMITH, GAMBRELL & RUSSELL, LLP 1850 M STREET, N.W., SUITE 800 WASHINGTON, DC 20036			KERR, KATHLEEN M	
			ART UNIT	PAPER NUMBER
			1652	

DATE MAILED: 02/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/098,626

Applicant(s)

FARWICK ET AL.

Examiner

Kathleen M Kerr

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-19 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Application Status*

1. Claims 1-19 are pending in the instant application. The Examiner notes a preliminary amendment attempting to correct page numbers filed on August 29, 2002; said amendment included claims and did not mark any changes. Thus, the originally filed claims are being considered herein.

### *Restrictions*

2. Restriction to one of the following inventions is required under 35 U.S.C. § 121:
- I. Claims 1-2 and 19, drawn to elongated polynucleotides encoding 1-phosphofructokinase, classified in class 536, subclass 23.2.
  - II. Claims 1-2 and 19, drawn to elongated polynucleotides encoding 6-phosphofructokinase, classified in class 536, subclass 23.2.
  - III. Claims 3-17, drawn to methods of making amino acids in coryneform bacteria with an attenuated 1-phosphofructokinase gene, classified in class 435, subclass 106.
  - IV. Claims 3-17, drawn to methods of making amino acids in coryneform bacteria with an attenuated 6-phosphofructokinase gene, classified in class 435, subclass 106.
  - V. Claim 18, drawn to bacterium with an attenuated 1-phosphofructokinase gene, classified in class 435, subclass 252.3.
  - VI. Claim 18, drawn to bacterium with an attenuated 6-phosphofructokinase gene, classified in class 435, subclass 252.3.

3. The inventions are distinct, each from the other because of the following reasons:

Groups I and II are related to elongated polynucleotides encoding phosphofructokinases. However, these products are distinct based on their distinct structures – that of a gene encoding 1-phosphofructokinase and that of a gene encoding 6-phosphofructokinase. These products are also distinct based on their functions since the polynucleotides encode distinct enzymes

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catalyzing distinct reactions using distinct substrates to produce distinct products. Thus, Groups I and II are patentably distinct based on their distinct structures and functions. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper. The Examiner notes, however, that election of 1-phosphofructokinase (Group I) also includes polynucleotides encoding both 1- and 6-phosphofructokinase. Or alternatively, election of 6-phosphofructokinase (Group II) also includes polynucleotides encoding both 6- and 1-phosphofructokinase.

Groups I and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (M.P.E.P. § 806.05(h)). In the instant case, a full-length 1-phosphofructokinase gene can be used to attenuate said gene in coryneform using an appropriate vector. However, said gene can also be used to express 1-phosphofructokinase in *E. coli*. Thus, Groups I and III are patentably distinct. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Groups I and IV are related because Group I is drawn to a phosphofructokinase encoding polynucleotide and Group IV is drawn to a method using coryneform with an attenuated phosphofructokinase encoding polynucleotide. However, these two polynucleotides are distinct because one is for the 1-kinase and the other is for the 6-kinase, described as distinct above.

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Thus, Groups I and IV are patentably distinct. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Groups I and II are related to Groups V and VI by virtue of the phosphofructokinase genes of Groups I and II being attenuated in Groups V and VI. However, these Groups are distinct because Groups I and II is the actual gene while Groups V and VI are the absence of said gene. Thus, Groups I and II are structurally and functionally distinct from Groups V and VI. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Groups II and III are related because Group II is drawn to a phosphofructokinase encoding polynucleotide and Group III is drawn to a method using coryneform with an attenuated phosphofructokinase encoding polynucleotide. However, these two polynucleotides are distinct because one is for the 1-kinase and the other is for the 6-kinase, described as distinct above. Thus, Groups II and III are patentably distinct. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Groups II and IV are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (M.P.E.P. § 806.05(h)). In the instant case, a full-length 6-phosphofructokinase gene can be used to attenuate

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said gene in coryneform using an appropriate vector. However, said gene can also be used to express 6-phosphofructokinase in *E. coli*. Thus, Groups II and IV are patentably distinct.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Groups III and IV are related as methods of making amino acids using host cells with attenuated phosphofructokinase genes. However, these methods are distinct based on the distinct structures of the reagents used in the methods – that of a gene encoding 1-phosphofructokinase and that of a gene encoding 6-phosphofructokinase. These methods are also distinct based on the functions of said genes since the polynucleotides encode distinct enzymes catalyzing distinct reactions using distinct substrates to produce distinct products. Thus, Groups III and IV are patentably distinct based on the distinct structures and functions of the reagents used in the methods. Because these inventions are distinct for the reasons given above and the search required for Group III is not required for Group IV, restriction for examination purposes as indicated is proper.

Groups III and V are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (M.P.E.P. § 806.05(h)). In the instant case, the host cells with attenuated genes can be used for a distinct process of using the product, such as in complementation assays looking for new phosphofructokinase-encoding genes. Thus, Groups III and V are patentably distinct. Because

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these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Groups IV and VI are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (M.P.E.P. § 806.05(h)). In the instant case, the host cells with attenuated genes can be used for a distinct process of using the product, such as in complementation assays looking for new phosphofructokinase-encoding genes. Thus, Groups IV and VI are patentably distinct. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

#### ***Notice of Possible Rejoinder***

4. The Examiner notes that if product claims are found directed to an allowable product, then process claims, which are directed to processes of using the patentable product, previously withdrawn from consideration as a result of a restriction requirement, would now be rejoined pursuant to the procedures set forth in the Official Gazette notice dated March 26, 1996 (1184 O.G. 86; see also M.P.E.P. § 821.04, *In re Ochiai*, and *In re Brouwer*). Since process claims would be rejoined and fully examined for patentability under 37 C.F.R. § 1.104, Applicants are instructed to amend said claims as deemed necessary according to rejections made against the elected claims.

***Election***

5. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 C.F.R. § 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(i).

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathleen M Kerr whose telephone number is (571) 272-0931. The examiner can normally be reached on Monday through Friday, from 9:00am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathupura Achutamurthy can be reached on (571) 272-0928. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kathleen M Kerr  
Examiner  
Art Unit 1652

February 9, 2004